

**Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department**



Academic Program and Course Description Guide

2024

Academic Program Description Form

University Name: Northern Technical University

Faculty/Institute: . Al-dour Technical Institute.

Scientific Department: Electronic Techniques

Academic or Professional Program Name: Technical Diploma in Electronic Techniques

Final Certificate Name: . Technical Diploma in Electronic Techniques

Academic System: Curriculum system

Description Preparation Date: 2/9/2024

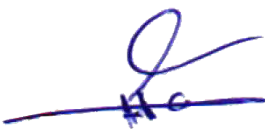
File Completion Date: 2024/9/7

Signature: 

Head of Department

Name: Assist. Lec. Nida Muhsin Ali

Date:

Signature: 

Scientific Associate

Name: Proff. Dr. Hanan Shihab Ahmad

Date:

The file is checked by: Assist. Lec. Hayder Ali Muhsin

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department

Date:

Signature: 



Dean's endorsement
Assist. Prof. Dr. Maha Elttayef Jasim

1. Program Vision

Providing knowledge of electronic technologies, acquiring technical skills in operating and maintaining electronic devices, and developing innovative technical solutions that promote sustainable development and meet the changing needs of the labor market.

2. Program Mission

Preparing intermediate technical cadres with specialized technical knowledge and skills in the field of electronics to meet the needs of the labor market, with a focus on developing technical competencies through quality applied education, practical training, and innovation to serve the local and regional community.

3. Program Objectives

1. Implementing quality standards in education and training to ensure distinguished educational outcomes.
٢. Developing curricula and academic programs in line with scientific and technological developments in the field of electronic technologies.
٣. Supporting and encouraging scientific research that contributes to finding innovative technical solutions to industrial and societal problems.
٤. Building sustainable cooperative relationships with the industrial sector and local institutions to provide training and employment opportunities and support the professional development of graduates.
٥. Encouraging students to implement innovative technology projects that contribute to improving the quality of life and developing local industries.
٦. Providing technical and technological consultations to various institutions and contributing to enhancing technical awareness in society.

4. Program Accreditation

No accreditation program

5. Other external influences

No external influences

6. Program Structure

Program Structure	Number of Curriculums	Credit hours	Percentage	Reviews*
Institution Requirements	۱۰	۲۰	%۲۱.۷	9 basic, 1 optional
College Requirements	۳	۷	%۷.۶	3 basic
Department Requirements	۲5	64	%۶۹.۵	24 basic, 1 optional
Summer Training	Completed	-----	-----	
Other	None			

* This can include notes whether the Curriculum is basic or optional.

7- Program Description

Year / Level	Code of the Curriculum	Name of the Curriculum	Approved hours	
			Theoretical	Practical
First Level	NTU 101	English Language	2	-
	NTU 102	Computer	1	1
	TIDO 100	Mathematics Foundation	2	-
	TIDO 101	Mechanical Workshop	-	2
	MDDI 100	DC Electrical circuits	2	2
	MDDI 101	Principles of Electronics	2	2
	MDDI 102	Principles of digital circuits	2	2
	MDDI 104	Electrical Workshop	-	2
	MDDI 103	Physiology	2	-
	MDDI 110	Engineering Drawing	-	2
	NTU 103	Arabic Language	2	-
	NTU 104	Sports	1	1
	NTU 100	Democracy and Human Rights	2	-
	TIDO 102	Differentiation and Integration	2	-
	MDDI 105	Electrical Drawing	-	2
	MDDI 106	Electronic workshop	-	2
	MDDI 107	AC electrical circuits	2	2
	MDDI108	Electronics	2	2
	MDDI109	Digital circuits applications	2	2

Year / Level	Code of the Curriculum	Name of the Curriculum	Code of the Curriculum	
			Theoretical	Practical
Second Level	NTU 203	Crimes of Al-Baath regime in Iraq	2	-
	NTU 200	English language	2	-
	NTU 201	Computer	1	1
	MDDI 201	Electronic Circuit 1	2	2
	MDDI 202	Microcomputer 1	2	2
	MDDI 203	Electronical Medical Instruments 1	2	2
	MDDI 204	Medical Instruments Maintenance workshop 1	-	2
	MDDI 205	Project 1	-	2
	MDDI 206	Electro-mechanical Medical Instruments	2	2
	MDDI 212	Control	2	2
	MDDI 214	Renewable energy systems	1	2
	NTU 202	Arabic Language	2	-
	NTU 204	Professional Ethics	2	-
	MDDI 200	Measurements Devices	2	2
	MDDI 207	Electronic Circuit 2	2	2
	MDDI 208	Microcomputer 2	2	2
	MDDI 209	Electronical Medical Instruments 2	2	2
	MDDI 210	Medical Instruments Maintenance workshop 2	-	2
	MDDI 211	Project 2	-	2
	MDDI 213	logic controller Programmable (PLC)	1	2

8- Expected learning outcomes of the program

Knowledge

A1- Preparing and graduating a technical cadre that meets the basic technical and cognitive requirements to become a high-quality technical resource in the field of medical devices.

A2- The ability to classify medical devices, their operation, diagnose their risks, and understand their risks.

A3- Collaborating with physicians and healthcare institutions to provide the necessary technical support to operate medical devices properly and effectively.

A4- The ability to write technical reports on medical device testing results and the ability to extract conclusions and their implications.

Skills

B1 - Install and operate various electronic and electromechanical medical devices, both diagnostic and therapeutic.

B2 - Schedule and program periodic maintenance work.

B3 - Contribute to and supervise the maintenance, upkeep, and calibration of various medical devices.

B4 - Design, develop, and find replacement parts for some defective medical device units.

Ethics

A1- Compliance with health and technical standards and regulations applied in the medical process, ensuring patient safety and treatment effectiveness.

A2- The ability to develop oneself and update knowledge in the field of specialization over the long term.

A3- Optimum use of all possible means to keep pace with the latest developments in the specialty.

A4- Continuous research and development in the field of medical device engineering technology, improving the performance, efficiency, and overall safety of medical devices.

9. Teaching and Learning Strategies

((Theoretical lectures / discussion and dialogue / practical lectures / field visits / discussion circles / laboratories / office activities / solving examples / graduation project / summer training))

10. Evaluation methods

((Oral and written exams/observation and cumulative record))

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements /Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Assist. Professor Dr.	Philosophy of Science	Philosophy of Science in Life Sciences				
Lecturer Dr.	Philosophy of Animal Resources	Molecular Genetics				
Assistant Dr.	Arabic Language and Literature	Modern Literature				
Assist. Professor	Management and Economics – Accounting	Accounting				
Assistant Lecturer	Electrical Engineering	Electrical and Computer				
Assistant Lecturer	Pathological	Pathological				
Assistant Lecturer	Biological Sciences	Biological Sciences				
Assistant Lecturer	Biological Sciences	Biological Sciences				

Assistant Lecturer	Information Technology	Management Information Systems				
Assistant Lecturer	Computer Science	Computer Science				
Assistant Lecturer	Management and Economics - Accounting	Accounting				
Assistant Lecturer	Business Administration and Marketing	Business Administration and Marketing				

Professional Development

Mentoring new faculty members

Directing new faculty members to follow up on annual updates to the study plan and the necessity of updating the curricula in line with the plan announced by the academic department.

Professional development of faculty members

Conducting field visits to the public and private sectors and universities within the specialization to review field developments in the field of specialization.

12. Acceptance Criterion

The admission criteria for morning studies are within the central admission plan, which is approved by the Ministry of Higher Education and Scientific Research.

13. The most important sources of information about the program

The programmers and resources are approved by the university's sectoral committees and are updated periodically through the annual meetings of the relevant committees.

14. Program Development Plan

Using new concepts and modern methods in the maintenance and calibration of various medical devices through the participation of specialized professors in the scientific department in scientific workshops, seminars, and twinning work with the hospitals specializing

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Curriculum Code	Curriculum Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First level	NTU100	Human Rights Democracy	Basic	X	X	X		X	X	X	X	X	X	X	
	NTU101	English Language 1	Basic	X	X	X	X	X	X			X	X		
	NTU102	Principles of Computer	Basic	X	X	X			X	X	X	X	X		
	NTU103	Arabic Language	Basic		X	X	X	X	X	X	X	X	X		X
	NTU104	Sport	optional		X			X	X	X	X	X	X		
	TIDO100	Foundations of Mathematics	Basic	X	X		X	X	X		X	X	X		
	TIDO101	Mechanical Workshop	Basic	X	X			X	X		X	X	X		
	TIDO101	Calculus	Basic	X	X	X			X	X	X	X	X		X
	MDDI100	DC Electrical Circuits	Basic	X	X	X	X	X	X	X	X	X	X	X	X
	MDDI101	Electronic Principles	Basic	X	X		X	X	X	X	X	X	X		X
	MDDI102	Digital Circuit Principles	Basic	X	X	X	X	X	X	X		X	X	X	X
	MDDI103	Physiology	Basic	X	X	X		X	X	X		X	X	X	X
	MDDI104	Electrical Workshop	Basic	X	X	X	X	X	X	X		X	X	X	
	MDDI105	Electrical drawing	Basic	X	X	X		X		X	X	X	X	X	X
	MDDI106	Electronics Workshop	Basic	X	X	X	X	X	X	X	X	X	X	X	
	MDDI107	AC Electrical Circuit	Basic	X	X	X		X	X	X	X	X	X	X	

Sconed level	MDDI108	Electronic	Basic	X	X	X		X	X	X	X	X	X	X	
	MDDI109	Digital Circuit	Basic	X	X	X		X	X	X		X	X		
	MDDI110	Engineering Drawing	Basic												
	NTU200	English Language	Basic	X	X	X		X	X	X		X	X	X	X
	NTU201	Computer	Basic	X	X	X		X	X	X		X	X	X	X
	NTU202	Arabic Language	Basic		X	X		X	X	X	X	X	X		X
	NTU203	The Crimes Of The Baath Regime In Iraq	Basic		X			X	X	X		X	X	X	
	NTU204	Professional Ethics	Basic		X	X	X		X	X	X	X	X		X
	MDDI200	Measurements Devices	Basic	X	X	X	X	X	X	X		X	X	X	
	MDDI201	Electronic Circuit 1	Basic	X	X	X		X	X	X		X	X	X	
	MDDI202	Microcomputer 1	Basic	X	X	X		X	X	X		X	X	X	
	MDDI203	Electronical Medical Instruments 1	Basic	X	X	X		X	X	X		X	X	X	
	MDDI204	Medical Instruments Maintenance workshop 1	Basic	X	X	X		X	X	X		X	X	X	
	MDDI205	Project 1	Basic	X	X	X	X	X	X	X	X	X	X	X	
	MDDI206	Electro-mechanical Medical Instruments	Basic	X	X	X	X	X	X	X		X	X	X	
	MDDI207	Electronic Circuit 2	Basic	X	X	X		X	X	X		X	X	X	X

	MDDI208	Microcomputer 2	Basic	X	X	X		X	X	X		X	X	X	X
	MDDI209	Electronical Medical Instruments 2	Basic	X	X	X		X	X	X		X	X	X	X
	MDDI210	Medical Instruments Maintenance workshop2	Basic	X	X	X		X	X	X	X	X	X	X	X
	MDDI211	Project 2	Basic	X	X	X		X	X	X	X	X	X	X	
	MDDI212	Control	Basic	X	X	X		X	X	X	X	X	X	X	
	MDDI213	Programmable Logic Controller (PLC)	Basic	X	X	X		X	X	X		X	X	X	
	MDDI214	Renewable energy systems	optional	X	X	X		X	X	X		X	X	X	